

APPENDIX J

CREATING AND USING ORACLE DATABASE AUDIT CAPABILITIES

To enable ORACLE auditing for an established Oracle database perform the following steps:

- a. Log into the ORACLE account, enter the password prompt.
- b. Define the ORACLE_SID environment variable to the DSRS database.


```
setenv ORACLE_SID dsrs
```
- c. Log into the ORACLE database using the **system** account with system password:


```
sqlplus system/manager
```
- d. Execute the **cataudit.sql** script to create the auditing data dictionary views:


```
@$ORACLE_HOME/rdbms/admin/cataudit.sql
```
- e. Exit from the ORACLE database.
- f. Update the **\$ORACLE_Home/dba/init\$ORACLE_SID.ora** file. Insert the following line at the end of the file:


```
audit_trail = true
```
- g. Shutdown and restart the database using the interactive method documented in the *Implementation Procedures for the DSRS and Related COTS Support Software*. This will start the database with the audit capability enabled.
- h. Execute the **/dsrscm/testdb/create_audits** script file to audit the following:


```
delete table by access
insert table by access
update table by access
system table by access
user by access
table by access
session
```

The following list contains some of the frequently used audit tables and select statements to generate helpful information from the table data. Additional information about auditing database usage can be found in the *ORACLE7 Server Administrator's Guide*:

SYS.DBA_AUDIT_OBJECT All audit trail records for all objects in the system.

```
select substr(username,1,20),timestamp, substr(obj_name,1,30), substr(action_name,
1,30) from sys.dba_audit_object
```

```
where action_name = UPDATE, INSERT, CREATE TABLE, DROP TABLE,
DELETE
```

```
or where username = DSRS_USER_ID
```

SYS.DBA_AUDIT_SESSION All audit trail records in the system concerning connect and disconnect.

```
select substr(username,1,20),timestamp,substr(action_name,1,20),logoff_time from
sys.dba_audit_session;
```

SYS.DBA_AUDIT_STATEMENT All audit trail records in the system concerning grant, revoke, audit, noaudit and alter system statements.

```
select substr(username,1,20), substr(obj_name,1,30), substr(action_name,1,20),
obj_privilege, substr(sys_privilege,1,20) from sys.dba_audit_statement
```

SYS.DBA_AUDIT_TRAIL Collection of all audit records in the system.

```
select substr(username,1,20), timestamp, substr(obj_name,1,30),
substr(action_name,1,30), logoff_time from sys.dba_audit_trail;
```

SYS.DBA_STMT_AUDIT_OPTS Describes current system auditing options across the system and by the user.

SYS.AUDIT_ACTIONS Description table for audit trail action type codes.

SYS.DBA_PRIV_AUDIT_OPTS Privilege auditing options.